

Peer Review File

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Reviewer A:

Comment 1: This is a really well written review and it has all of the important components. I have the following small revisions for the authors:

Lines 40-42

In the introduction, I recommend adding a reference to support the statement about urologic complications being common in this patient population –real data for each of the major complications would be even better.

Reply 1: References added.

Comment 2: Lines 69-72

This is a good point. I recommend being even more explicit and explaining the concept of the importance of performing an “organ inventory” for all patients presenting for care. There are some references for this and I would cite at least one. See Rosendale et al. Acute Clinical Care for Transgender Patients.

Reply 2: Commentary regarding an organ inventory were added with appropriate citations

Comment 3: Lines 182-185

The authors are a little vague about the effect of pelvic floor disruption during vaginectomy – I understand there are no real data on this – but I suggest they discuss the implications of levator myorrhaphy (which essentially occurs during colectomy as the walls are sutured together – it’s not just “disruption”) – this leads to levator spasm and sometimes pain, which is likely a big contributor to urinary urgency frequency symptoms and voiding dysfunction in some patients.

Reply 3: We agree that vaginectomy has potential to disrupt levator musculature, and that myorrhaphy can lead to levator spasm and pain. As the reviewer notes, no literature exists at present on pelvic floor dysfunction post phalloplasty or metoidioplasty, therefore we have added a citation to gynecologic literature to reflect the potential for levator-related contribution to voiding dysfunction.

Comment 4: *Are the authors able to provide some pictures of the steps of the Big Ben approach? Especially the staging of the urethral lengthening since it is different than some other approaches. I think this would enhance the paper even more.

Reply 4: New figure 2 was added; remaining figures were re-enumerated. An acknowledgment to Dr Blair Peters was added for their contribution of these photos to this review.

Reviewer B:

Comment: This is a thorough review of urinary symptoms following gGAS.

Reviewer C:

Comment 1: This comprehensive review of urinary symptoms after gender affirming metoidioplasty and/or phalloplasty is well written and organized. Authors mentioned that the stricture and fistula rates are very low from the Belgrade technique for urethral reconstruction. Is this low rate transferable to the authors' own institutional experience as well using the Belgrade technique?

Reply 1: Briefly added our surgical experience.

Comment 2: Minor edits:

Composite flap is defined as a flap that uses many tissue types like bone and muscle along with adipose and skin. I think what the authors mean to say is a combination flap of RFFF for the urethra and ALT for the phallus.

Reply 2: Thank you for this revision; we have updated the manuscript to reflect the potential for combination flaps rather than the incorrect previously used composite flaps.

Comment 3: Fistulas are usually at the penoscrotal junction, base of phallus, or upper scrotum, although fistulas may be most common of the ventrum in the "phallus first" staging method. If so, a clarifying sentence would be helpful.

Reply 3: Additional clarification was made in the post-phalloplasty fistula paragraph.

Comment 4: Commentary should be made on dysfunctional elimination where perioperative bowel habits—especially post op from narcotic induced constipation—can lead to prolonged LUTS caused by pelvic neuropathy from inadequate stool emptying. Pediatric urologists know this well; adult urologists tend to use oxybutynin and not miralax, potentially worsening the negative bowel-bladder cycle. Comment could also be made on risk of bladder stones as a cause of pelvic pain and intermittent obstructive symptoms and recurrent UTIs. Bladder stones are unfortunately not uncommon due to need for prolonged catheterization creating a nidus for stone formation.

Reply 4: Brief commentary added regarding bowel habits and bladder stones

Reviewer D:

Comment: Well written review of voiding complications after genital gender affirming surgery